

Chapter 2.8

Trend analysis

1. Applicability of this chapter

You are required to follow this chapter if you are a line manager at any level.

2. Description of Sub-element 2.8

JSC shall have a system to analyze trends by reviewing injury, illness, and close-call experience and hazards identified through inspections, employee reports, accident investigations, or other means. The purpose is to identify patterns with common causes and eliminate or control the causes.

3. Trend analysis processes

Trend analysis may occur at any level within JSC. Trend analysis involves:

- a. Regularly reviewing all kinds of data such as:
 1. Mishap reports to include injury categories, root causes, activities, environments, etc.
 2. Close-call reports to include categories and locations.
 3. Inspection reports and findings.
 4. Other available data
- b. Looking for patterns in the data that indicate common types, causes, locations, or other categories. This may involve questions such as:
 1. Is the number of close calls, mishaps, or hazards in my work areas increasing or decreasing?
 2. Do any of my work areas have several mishaps, close calls, or hazards of a common kind such as back injuries or trips and falls?
 3. Do mishaps, close calls, or hazards involve an environmental release, spill, nonconformance, or noncompliance?
 4. Do you see similar root causes in mishaps, close calls, or hazards?
 5. Are there patterns in employee behaviors?

4. Analyzing and correcting trends

Trends may take one of three directions:

- a. **Negative trends** indicate a safety or health issue that is growing worse with time and needs corrective or preventive action. Investigate negative trends to see whether a common cause(s) exists. Actions to reverse the trend shall remove the common cause(s)

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or provide awareness of the trend if no common cause(s) can be found. Investigating negative trends involves one of the following:

1. Center-level committees or teams appointed by the JSC Management Council, Coordination Safety and Health Committee, or the JSC Safety Action Team to investigate a specific trend or suspected trend shall follow JPR 1281.14, “Corrective Action, Preventative Action and Continuous Improvement.”
 2. Committees or teams within the line organizations may follow JPR 1281.14 at the discretion of the appointing official.
 3. If you don’t follow JPR 1281.14, ask why the trends exist and look for underlying causes. Analyze patterns to determine why the trends are occurring. Root cause analysis is encouraged. Develop action plans to eliminate the causes, provide awareness, and report lessons learned.
- b. **Neutral trends** indicate safety conditions that are stable. After discovering a neutral trend, you may want to establish the conditions that contribute to the apparent stability of the observed data or related process. You may use any technique that allows you to effectively characterize the observed stabilities using one or more of any applicable techniques.
- c. **Positive trends** provide an opportunity for learning and capitalization. After discovering a positive trend, you may want to identify the specific reasons behind this apparent improvement. In doing so, you may want to consider whether the positive trend is a result of cyclic variation (typically associated with human factors) or if it is traceable to a critical success factor such as a process improvement. The conclusions may be published as lessons learned, shared in specific forums where target audiences are likely to benefit from this information, published as an online resource, etc.

5. Responsibilities

Responsibilities for trend analysis are as follows:

- a. The **Safety and Test Operations Division** and the **Clinic Services Branch** are responsible for:
 1. Reviewing safety and health data for trends and other significant items.
 2. Bringing the top mishap and close-call categories, trends, and other significant items to the Executive Safety Committee or the JSC Safety Action Team for further action.
 3. Providing line organizations with safety and health data and suggesting to line managers ways they can improve their safety and health performance.
 4. Providing information on environmental trends to the Environmental Office.

- b. As a *line manager*, you are encouraged to:
 - 1. Keep records on mishaps, close calls, and hazards in your work areas. Look for trends in these reports. You may also include any helpful information outside your organization.
 - 2. Analyze your safety and health data, such as mishap or inspection reports, and use your analysis to improve your safety and health program. Is the number of mishaps, close calls, or hazards increasing or decreasing in your work area? Are certain categories of mishaps, close calls, or hazards increasing or decreasing? Are there common causes in your mishaps, close calls, or hazards?
 - 3. Tell your employees what you learn from your analysis and what actions you plan to take.

6. Safety and health records

The following records document trend analysis:

- a. Center-level records include any records to indicate that trends were analyzed and action taken, such as briefing packages, committee reports, minutes of meetings where trends are discussed, etc.
- b. Organizational-level records – Records to support organization-level trend analysis such as minutes where trends are discussed and actions taken on trends analyzed, etc. Note, this is not required but encouraged.